C10xx Series

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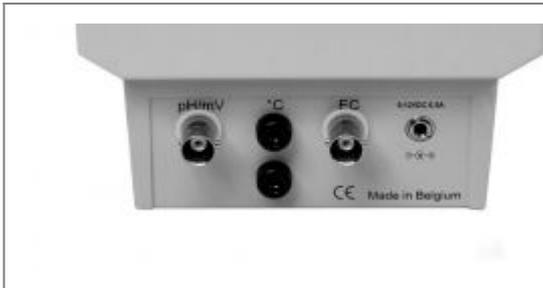
	C1010 **pH/mV**: pH, mV **EC**: Conductivity, Dissolved oxygen **°C**: Temperature (Pt1000) **C1020** **pH/mV**: pH, mV **EC**: Conductivity, Dissolved oxygen **°C**: Temperature (Pt1000)

Installation of the instrument

Keyboard

MODE=Selects all modes or escapes from error traps, calibration procedures, etc. by returning to the original mode.
CAL=Starts or proceeds a calibration or a function.
↑↓=Button for entering a value or for selecting a function.

Inputs

The measuring electrodes should be connected to the corresponding coaxial pH/mV or EC connectors. Automatic temperature compensation and temperature measurements are possible by plugging a Pt1000 temperature probe into the °C terminals. Without Pt1000, the manual temperature compensation is automatically switched on.

•Never immerse a pH electrode and a dissolved oxygen electrode together in the same solution!

•A blinking decimal point warns you for unstable measurements. Wait to read the display! Stirring the solution during the measurements promotes the homogeneity and is obligatory!

•The instrument will refuse automatic calibration when the electrode is unstable. Insufficient stirring or a worn electrode may be the cause.

Device Menu

Press **MODE** to go to the menu. Press **CAL** to enter the selected item. Press **MODE** to go back or cancel.

- [pH]
- [mV]
- [mS/cm]
- [SAL] (C1020 only)
- [TDS] (C1020 only)
- [O2]
- [%O2]
- [SETTINGS]
    - [LANGUAGE] –> select the desired language and press **OK**
    - [CONTRAST] –> adjust the contrast and press **OK**
    - [ERASE MEMORY] (C1020 only) –> [YES] –> datalog memory will be erased

pH measurement

1. Select the desired mode (pH) by pressing **MODE.** The display will immediately show the measured value according to the previous calibration. Should you want to recalibrate, press **CAL**.
2. The instrument permits to choose between the buffers in memory (1.68, 2.00, 4.00, 4.01, 6.87, 7.00, 9.18, 9.21, 10.01, 12.00, 12.45). Select the proper values and press **CAL**.The unused buffers should be switched off by selecting –.–.
3. Rinse the electrodes with distilled water and immerse them in the first buffer solution. Select [CALIBRATE], press **CAL** and follow the instructions on the screen until the calibration is finished.
4. After rinsing the electrodes with distilled water, immerse them in the samples and read the display.
5. Rinse the electrodes always with distilled water after use and store them in a 3…4 M KCl solution.

mV measurement

1. Select the desired mode (mV) by pressing **MODE.** The display will immediately show the measured value according to the previous calibration. Should you want to recalibrate, press

   CAL.
2. Immerse the electrodes in a standard solution of known potential.
   - Select [CALIBRATE] and press **CAL**. Adjust to the proper value and press **CAL**.
   - Select [RESET] and press **CAL** to reset the calibration.

Temperature measurement

1. Select the desired mode (°C) by pressing **MODE**. Should you want to recalibrate, press **CAL**.
2. Immerse the Pt1000 in a solution of known temperature.
   - Select [CALIBRATE] and press **CAL**. Adjust to the proper value and press **CAL**.
   - Select [RESET] and press **CAL** to reset the calibration.
   - Without Pt1000, press **CAL**, adjust the manual temperature compensation and proceed by pressing **CAL**.

Conductivity measurement

1. Select the desired mode (S/cm) by pressing **MODE**. The display will immediately show the measured value according to the previous calibration. Should you want to recalibrate, press **CAL**.
2. The instrument permits to choose between the standards in memory (0.01, 0.1, 1 M KCl). Select the proper values and press **CAL**.The unused standards should be switched off.
3. After rinsing the electrode several times with the first standard solution, immerse it in that standard. The solution temperature is not so critical but should lie between 0°C and 40°C. When no Pt1000 is used, do not forget to compensate manually first! Select [CALIBRATE], press **CAL** and follow the instructions on the screen until the calibration is finished.
4. Rinse the electrode several times with the sample, immerse it in that solution and read the display.
5. Rinse the electrode always after use and store it in distilled water (add some detergent to keep the spongy platinum surface in perfect condition).

TDS measurement (C1020 only)

1. Select the desired mode (mg/l)(TDS) by pressing **MODE**. The display will immediately show the measured value.

Salinity measurement (C1020 only)

1. Select the desired mode (SAL) by pressing **MODE**. The display will immediately show the measured value.

Dissolved oxygen measurement

1. Select [O2] by pressing **MODE**. The display will immediately show the measured value according to the previous calibration. Should you want to recalibrate, press **CAL**.
2. The display shows the air pressure correction and the salinity correction. Select the proper values and press **CAL**. Leave salinity correction to zero unless you are going to measure in heavily salted solutions such as e.g. sea-water (35 g/l). Select [CALIBRATE], press **CAL** and follow the instructions on the screen until the calibration is finished.
3. The electrode exposed to the air reaches an equilibrium corresponding to the partial pressure of oxygen and thus to saturation in water at the given temperature. The instrument shows the measured saturation, current, temperature, and will calibrate automatically when readings are stable.
4. After rinsing the electrodes with distilled water, immerse them in the samples and read the display. Stirring the solution during the measurements promotes the homogeneity and is **obligatory**! The advection rate must be at least 10 cm/s.
5. Rinse the electrode always after use and store it in distilled water.

Good Laboratory Practice

1. Select the desired range by pressing **MODE**.
2. Press **CAL**, select GLP and press **CAL** to display a complete calibration report.

Data logging (C1020 only)

Data Storage in the internal memory

1. Press ê to store the displayed value in memory. The display shows a next storage address.
2. Select the desired address and press **CAL** to enter the measured value in memory.

Recalling data

1. Press é to recall the stored data. The display shows a list of stored values.
2. Select the desired address to read the stored values.
3. Press **MODE** to return to the normal measurements.

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